

A cross-cultural analysis of proenvironmental consumer behaviour among seniors

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Abstract

This paper presents the results of a cross-national study into the ecologically conscious consumer behaviour of senior consumers (aged 50+, mean age 64 years) in the UK, Germany, Japan, and Hungary. Using a survey, the study (n = 1275) utilises a modified version of the Ecologically Conscious Consumer Behaviour Scale, in addition to a battery of variables to measure wider ethical purchasing behaviour and sociodemographic characteristics. Findings suggest that there are segments of older consumers in all countries under study who demonstrate ecologically conscious consumer behaviour, and at the same time there are segments that do not. These segments cannot be identified by sociodemographic variables, but do differ in their wider ethical purchasing behaviour. The study is the first of its kind to measure actual ecologically conscious consumer behaviour in the senior market across different nations.

Keywords seniors; older consumers; ecologically conscious consumer behaviour

Introduction

Over the last decade, there have been significant and important additions to the body of knowledge pertaining to contemporary issues in ethical and environmental marketing. However, four notable gaps remain. First, research into ethical issues is still dominated by corporate, as opposed to consumer, ethics (Schlegelmilch & Oberseder, 2010). Second, cross-cultural consumer ethics is still very much under researched (Newholm & Shaw, 2007; Ramsey, Marshall, Johnston, & Deeter-Schmelz, 2007). Third, there is a noted attitude–behaviour gap, in that ‘there appears to be a gap between what consumers say about the importance of ethical issues and what they do at the checkout counter’ (Auger & Devinney, 2007, p. 361). Finally, Vitell, Lumpkin, and Rawwas (1991) noted more than a decade ago that virtually no studies have examined the ethical beliefs of elderly consumers, despite the fact that this ‘represents an important and rapidly growing segment of the

population' (p. 366), and with only a few exceptions (Carrigan, Szmigin, & Wright, 2004) this situation remains as true today as it was then.

The research presented here was designed based on these gaps, and presents the results of a cross-national survey into the ecologically conscious consumer behaviour of senior consumers. In so doing, it also concentrates on four nations (UK, Japan, Germany, and Hungary) which are important from a senior consumer perspective, and yet previous research conducted in these nations lags far behind what is known about the older consumer in the United States.

The paper begins with a review of current knowledge pertaining to overall ethical consumer behaviour and beliefs, before presenting an overview of the importance of older consumers in the nations under study. The review section finishes with a summary of the small amounts of literature which focuses on older consumers and ethical consumption. Details of the measurement instruments and methods used to collect the data in the four nations are then presented, before moving onto the results, which, due to issues of measurement invariance, are presented on a country by-country basis. Nevertheless, tentative cross-national comparisons are made in the subsequent discussion section. The paper concludes with implications for managers and sets out a research agenda.

Ethical consumer behaviour and beliefs

The ethical consumer movement is now well recognised (Carrigan & Attalla, 2001; Harrison, Newholm, & Shaw, 2006), with the term 'ethical consumer behaviour' incorporating a variety of consumption activities, including the purchasing of Fairtrade and environmentally friendly products and the conscious boycotting of products that have been produced by companies with a poor ethical reputation. Ethical consumer behaviour is without doubt increasing, and the UK is now the biggest market in Europe for Fairtrade goods (Varul & Wilson-Kovacs, 2008), with consumption of ethical products and services in the UK rising by 15% between 2006 and 2007 to an estimated value of £35.5 billion (Co-operative Bank, 2008). While the Japanese Fairtrade market is still comparatively small, it has been showing tremendous growth rates in recent years, pointing to a new consumption trend in Japan (Kohlbacher & Langbecker, 2010). The phenomenal growth in ethical products, spurred partly by the Fairtrade movement which provided an alternative model of trade, gave many companies a radical edge (Low & Davenport, 2005). Indeed, it has been argued that this radical edge became a source of competitive advantage which attracted the attention of major companies, and today Fairtrade, Rainforest Alliance, and other ethical products are found in mainstream as opposed to niche markets (Doherty & Tranchell, 2007).

This shift from niche to mainstream is producing a parallel shift in the way researchers view ethical consumption. Ethical purchasing, and indeed the boycotting of unethical brands, has long been recognised as a way of expressing one's political and moral concerns (Irving, Harrison, & Rayner, 2002; Sassatelli, 2006; Shaw, 2007). However, as Low and Davenport (2007) suggest, the move of ethical products from niche to mainstream high street has resulted in the dilution of highly politicised programmes into the belief among many people that product choices can create social and political change. Given that today's seniors comprise 'the Woodstock generation', it is reasonable to assume that they would not be afraid to utilise their significant purchasing power for political reasons. At the same time, perceived consumer effectiveness has been shown to moderate pro-environmental behaviour (Kim & Choi, 2005; Laskova, 2007). Thus it may be that some seniors, who are all too used to being ignored by marketers and advertisers (Carrigan & Szmigin, 1999; Simcock & Sudbury, 2006), may perceive their behaviour to be of little effect.

One major problem identified in the literature is the so-called 'attitude-behaviour gap'. As Cowe and Williams (2000) point out, far more consumers profess to care about ethical issues than actually purchase ethical products, while Schröder and McEachern (2004) note that while claiming to be ethical, some consumers delegate responsibility for ethical standards to the corporation. Moreover, Carrigan and Attalla (2001) note that consumer sophistication does not necessarily equate to ethical consumption. Thus awareness of ethical products, and indeed approval of them, does not guarantee purchase, and other factors need to be considered (Szmigin, Carrigan, & McEachern, 2008). One constant factor in the literature is price. It would appear that consumers are unwilling to pay a large premium in order to put their beliefs into practice (Sudbury & Böltner, 2010). Iwanow, McEachern, and Jeffrey (2005) found price and quality to have greater influence on purchase

decisions for clothing items, while, importantly, their study found price to be the primary influence affecting purchase decision among older consumers in Gap. McEachern, Warnaby, Carrigan and Szmigin (2010) also found that for some consumers the price-hike to buy ethical products was just too great, leading them to conclude, 'conscious consumers perceive limits to their ethical behaviours arising from . . . cost, even though they have an "ethical" orientation toward consumption' (p. 406). One important study (Loureiro, McCluskey, & Mittelhammer, 2002), which assessed consumer's willingness to pay for eco-labelled apples, found that females with strong environmental and food safety concerns were willing to pay more, but that this was only a small amount, leading these authors to conclude that it is difficult to get the balance right between environmentally friendly products and positioning and price. Of particular note is that this study was conducted in a grocery store. Thus the usual problems of recall with survey data were avoided, and of equal importance was the sample, which was upscale in comparison to the general population of the United States. Thus it seems as though ability to pay does not equate to willingness to pay a premium for environmentally friendly or ethically produced goods. Indeed, Pepper, Jackson, and Uzzell (2009) send out the reminder that energy use is related primarily to income and household size – not consumer's ethical and pro-environmental beliefs. Overall, then, it appears that price is a far more important issue to many consumers than are ethical issues. Indeed, Carrigan and Attalla (2001) discuss the 'depressing reality is that many ethical abuses can still continue to be carried out by companies without any negative impact on consumer buyer behaviour' (p. 571). This attitude-behaviour gap is well recognised across a number of studies conducted with different demographics and in a variety of countries (Auger, Burke, Devinney, & Louviere, 2003; Chatzidakis, Hibbert, & Smith, 2007; Eckhardt, Belk, & Devinney, 2010; Schröder & McEachern, 2005; Szmigin et al., 2008).

In contrast to studies that concentrate on older consumers, there is a body of literature that investigates cross-national and cross-cultural ethical issues. However, the gap comes from the lack of studies pertaining to ethical consumer behaviour across borders, as opposed to ethical beliefs and attitudes. Previous multinational investigations include a study into the perceived role of ethics and corporate social responsibility (Vitell & Paolillo, 2004), business ethics (Whipple & Swords, 1992), and Machiavellianism (Al-Khatib, D'Suria Stanton, & Rawwas, 2005).

Research into ethical consumption and ethical beliefs has identified a number of underlying antecedents, which include the pro-environmental behaviour of others (Pieters, Bijmolt, van Raaij, & de Kruijk, 1998), overall environmental consciousness (Schlegelmilch, Bohlen, & Diamantopoulos, 1996), perceived consumer effectiveness (Straughan & Roberts, 1999), values (Pepper et al., 2009), environmental consciousness and willingness to pay (Vlosky, Ozanne, & Fontenot, 1999), the modified Theory of Planned Behaviour (Shaw, Shiu, & Clarke, 2000), religiosity (Vitell & Paolillo, 2003), and attitudes towards business (Vitell, Singh, & Paolillo, 2007). However, previous research has shown socio-demographics to be poor determinants of ethical purchasing behaviour, with Schlegelmilch, Diamantopoulos, and Bohlen (1994) concluding, 'there is very little value in the use of socio-demographic characteristics for profiling environmentally-conscious consumers in the UK' (p. 348). Roberts (1996) found sex, income, education, and age to be significant predictors of ecologically conscious consumer behaviour, but these variables explained only 6% of the variance. This increased to 45% when he added attitudinal variables to his regression model.

While some studies have found no gender differences (Carrigan & Attalla, 2001), several have found females to be significantly more likely to demonstrate ethical attitudes than their male counterparts (Laroche, Bergeron, & Barbaro-Forleo, 2001; Loureiro et al., 2002), and Roberts (1996) found this pattern to be true for ecologically conscious consumer behaviour. More importantly, one of the few sociodemographic characteristics that does differentiate ethical beliefs is age. Age has been found to be a significant determinant in most of the ethical beliefs measured by Vitell et al. (2007); older adults have been shown to reject questionable activities (Swaidan, Vitell, & Rawwas, 2003; Vitell et al., 1991) and show a higher level of agreement with a code of ethics (Kim & Choi, 2003) than younger people, as well as be more positive towards Fairtrade (De Pelsmacker, Janssens, Sterckx, & Mielants, 2006), more environmentally concerned (Sandahl & Robertson, 1989), differ in their perceptions of unethical sales tactics, (Ramsey et al. 2007), and display higher levels of ecologically conscious consumer behaviour (Roberts, 1996).

The senior consumer

The current ageing of the world's population is probably the most profound demographic change in the history of humankind. It is a pervasive and truly global phenomenon, without precedent or parallel, largely irreversible, and, with the young populations of the past, unlikely to occur again. Indeed, at the world level, the number of older persons will exceed the number of children by 2047, which has already occurred in many developed regions. The profundity of this demographic change will impact on economic growth, labour markets, pensions, health care, housing, migration, politics, and of course consumption (UN, 2007). Although retirement ages, and indeed median age, differ across countries, tentatively it can be suggested that senior consumers are those aged 50 and above. Consensus among gerontologists (e.g. English Longitudinal Study of Ageing), charities (e.g. Age UK), academics (Carrigan, 1998; Simcock, Sudbury, & Wright, 2006), and practitioners (e.g. SilverSurfers.net, SAGA) has resulted in age 50 becoming the inclusion point for studies, policies, and target markets. Globally, therefore, according to the US Census Bureau (2011), the over-50s market comprises 1.4 billion consumers, or 20.8% of the world's population.

Despite the importance of this market in terms of its size and indeed purchasing power, it remains an under-researched segment. This situation is particularly true of research conducted on seniors outside the United States (Kohlbacher & Chéron, 2010; Kohlbacher, Sudbury, & Hofmeister, 2011). The present study therefore makes a contribution to knowledge by focusing on four disparate nations (Japan, UK, Germany, Hungary) outside the United States, all of which are important from an older consumer perspective. Table 1 presents the United Nations ageing population league table position, percentage of population over 65 years, and the number of adults who are classified as senior consumers (aged 50+) in each of these countries.

Table 1 Age classifications by country.

	Japan	Germany	UK	Hungary
UN ageing league table position	1	3	17	19
Per cent of population aged 65+	23	20	17	17
Size of senior consumer market (millions)	57	30	20	3.7

Japan is the country most severely affected by the demographic shift (Coulmas, 2007; Coulmas, Conrad, Schad-Seifert, & Vogt, 2008). Its population started to shrink in 2005, and as of October 2010, people aged 65 and older account for more than 23% of the population, the highest ratio in the world. Japanese private households with heads 50 years of age and older spend considerably more money per head than the age group between 30 and 49, and this high purchasing power of seniors also stems from their financial wealth. As a matter of fact, according to the latest estimates from 2009, older people hold a disproportionately large amount of personal financial assets, with those in their 50s and their 60s owning 21% and 31% respectively of the total, and those aged 70 years and older holding 28%, which means that people aged 50 years and older hold about 80% of total personal financial assets in Japan (Nikkei Weekly, 2010a). Older consumers in Japan thus obviously form an attractive market segment, and they have already overtaken younger age groups in terms of average household purchasing power and consumption, a trend that is forecast to increase even further over the next three years (Nikkei Weekly, 2010b). This is also one of the reasons why experts have pointed to the fact that managers and marketers around the globe can learn from experimenting in the Japanese lead market and why some foreign companies have already invested to take advantage of attractive opportunities represented by the demographic trend in Japan (Kohlbacher, Gudorf, & Herstatt, 2011).

Currently, the business world in Japan is highly attentive to the baby boomer generation, which represents the most important group of older customers (Dentsu Shinia Purojekuto, 2007; Hakuhodo Institute, 2003). The Japanese baby boomers – those born between 1947 and 1951 – have always been highly active, energetic, and consumption-oriented, and formed a wealthy subgroup, being curious about technological innovations and having a shopping-related mentality (McCreery, 2000). Along with retirement comes newly gained free time. This is the reason why the baby boomer generation, which has high purchasing power and propensity to

consume, is a very attractive potential target group for companies in the silver market (Kohlbacher, 2011; Sekizawa, 2008).

Germany is ranked third in the ageing league tables produced by the UN, with a median age of 43 years (CIA, 2011). Population projections indicate that the old-age dependency ratio will almost double over the next 50 years in Germany (Hoffman & Menning, 2004). Indeed, according to Eitner, Enste, Naegle, and Leve (2011), while approximately every fifth inhabitant of Germany was older than 65 in 2008, it is expected that by 2060 this will apply to every third inhabitant. At the same time, following the projections, the share of younger inhabitants below the age of 20 will fall from 19% in 2008 to 15% in 2060. According to the data, the number of adults 65 years and older will increase from around 16.5 million at present to approximately 22 million in 2060, and approximately 14% (9 million) will be 80 years and older (Statistisches Bundesamt, 2009). During recent years, the expenditures on private consumption in households with persons aged 65 and older rose far above average. In 2007, the 55–65 age group showed slightly above average consumption, spending C2137 per month (compared to the national average of C2067 per month). At the same time, this rise in consumption is markedly higher than the rise in income. In other words, the growth in consumption is effected at the expense of saving (Deutsches Institut fuer Wirtschaftsforschung, 2007; Statistisches Bundesamt, 2009). The German 50-plus group consists of approximately 30 million people who have spent a large part of their lives in a divided nation, giving them a specific set of experiences. Apart from this influence, these consumers are also influenced by when they were born; some of them experienced two World Wars, as well as economic crises, and the so-called baby boomers 'have largely been influenced by the hippie movement, Woodstock and the idea of sexual liberation' (Leyhausen&Vossen, 2011, p. 177).

The UK is ranked 17th from a total of 192 countries in the United Nation's league table on population ageing, and the median age in the UK is 40.5 years. According to the Office for National Statistics (ONS, 2009), life expectancy is now 81.5 for females and 77 for males (which is in stark contrast to life expectancy in 1901 which was 49 and 45 years respectively (ONS, 2004)). The addition of the baby boomers (the UK baby boom comprises those born 1947–1964) to this group has resulted in the emergence of a market comprising more than 20 million people, a 45% increase over five decades. This number is projected to increase by a further 36% by 2031, when there will be 27.2 million people aged 50 and over (ONS, 2004). Moreover, better nutrition and advances in health care have led to suggestions that a healthy life expectancy is increasing (Academy of Medical Sciences, 2009). Although there are pockets of very real deprivation in this segment (Arber, 2004), there is also a large degree of relative affluence and financial wellness (Baek & DeVaney, 2004). There are groups within this cohort, particularly those who came to maturity during the 1960s, who experienced a distinct zeitgeist characterised by abundance, education, opportunity, diversity, and freedom, leading to high levels of self-reliance and optimism (McKean Skaiff, 2006). Moreover, in many respects, it was the baby boomers who shaped modern marketing in the UK (Thompson & Thompson, 2007), and consumers aged 50–64 years are amongst the highest spenders on a range of products and services in the UK (ONS, 2009).

Hungary is ranked 19th in the UN (2007) population ageing league tables, with a median age of 39.7 years (CIA, 2011). It is an important country on which to focus because it already has the oldest population in Eastern Europe, and projections indicated that by 2010 its proportion of over 55s was higher than that for the United States (Velkoff, 1992). Recognition of the implications of Hungary's ageing population came in the recent altering of the official retirement age, which is also the age that a person is recognised as 'elderly', when it was increased from 60 to 65 years (Monostori, 2009). While some older Hungarians still live in poverty, comparative studies indicate that pensioner households have improved their relative income position during the economic transition, and indeed the incidence of poverty among the Hungarian old is lower than among all other age groups (UN, 2009). Moreover, compared to salaries, pensions in Hungary are higher than the European average (Monostori, 2009).

Senior consumers and ethical behaviour

An unexpected finding to emerge from a recent qualitative diary study into seniors and packaging (Sudbury & Simcock, 2010) was the level of concern shown by many older adults regarding packaging's environmental impact. Whilst the study revealed them to be consumers of high quality and expensive products, perhaps somewhat paradoxically these diaries also showed them to be socially and environmentally concerned and assiduous recyclers. Senior consumers are 'increasingly likely to be among the ranks of the ethically motivated

and adventurous' (Szmigin, Maddock, & Carrigan, 2003, p. 548). Moreover, a study conducted in Belgium (De Pelsmacker et al., 2006) found 'the older the respondents, the more positive they tended to be towards Fairtrade issues. Inclination to action, concern and buying behaviour increased with age . . . and older people appeared to be more positive about the price level of Fairtrade products' (p. 134). Indeed, an interpretive study conducted by Carrigan et al. (2004) led these authors to suggest that 'older consumers are a significant force within the consumer resistance movement . . . they are inherently diverse in nature, yet present some consistency in their attitudes towards certain aspects of ethical purchasing' (pp. 412–413). Yet, an extensive literature review has failed to uncover a single large-scale study that focuses on the actual ethical purchasing behaviour of older consumers.

Method

The study comprised part of a major piece of international research into older consumers across several culturally disparate nations, and utilised questionnaires. The lower age parameter of 50 was selected on the basis that this is (a) the most commonly used definition in the relevant literature (Moschis & Ong, 2011), and (b) the starting point for many age-related services offered to older consumers (e.g. SAGA, Silverserfer.net). The questionnaire was translated and back translated by teams in Japan, Germany, and Hungary before being piloted across all four countries. Several adjustments to the original questionnaire were made based on piloting (see below for details of scale adjustment). Three lists were purchased – one German (n = 6000), one British (n = 5000), and one Japanese (n = 1044) – that contained randomly selected names and addresses of people aged 50+, and a questionnaire and pre-paid envelope was posted to them all. Piloting in Hungary demonstrated the difficulties of self-completion among many older Hungarian adults. Thus the distribution strategy was adapted in that country, and consequently a team of trained researchers administered the questionnaire face-to-face to 200 adults aged 50+. This resulted in a usable sample of 1275 seniors, details of which are provided in Table 2.

Table 2 Sample characteristics by nationality and age.

Country	n	Mean age	Std. deviation
UK	450	66.27	8.277
Germany	213	63.15	8.396
Japan	412	63.87	8.484
Hungary	200	58.66	5.635
Total	1275	63.78	8.392

Respondents completed an adapted version of the Ecologically Conscious Consumer Behaviour (ECCB) Scale (Roberts, 1996; Roberts & Bacon, 1997). The scale was chosen because it measures actual ecologically conscious purchase behaviour (e.g. 'I have switched products for environmental reasons' and 'When there is a choice, I always choose the product that contributes to the least amount of environmental damage'), as opposed to intentions or attitudes. Indeed, given the major attitude–behaviour gap outlined in the literature, it was felt that the ECCB was superior to alternatives precisely because it appears to measure actual as opposed to intended behaviour. Piloting revealed that respondents perceived there to be too much similarity between some of the items (e.g. 'I buy toilet paper made from recycled paper', 'I buy Kleenex made from recycled paper', 'I buy paper towels made from recycled paper', and 'I make every effort to buy paper products from recycled paper' comprised four individual items). Thus these were merged into a single item ('I make every effort to buy paper products (toilet paper, tissues, etc.) made from recycled paper'). Some terminology was also amended, for example the term 'pollution' was replaced with 'environmental damage'. This process resulted in an adapted ECCB scale consisting of 11 items, measured using the standard five-point Likert-type scale comprising 'never true', 'rarely true', 'sometimes true', 'mostly true', and 'always true'. A higher score is indicative of a greater level of ECCB.

In recognition that the concept of environmentalism is broadly defined yet the ECCB scale is rather limited, a battery of questions pertaining to Fairtrade, ethical financial products, freedom foods, and animal testing were included in the questionnaire. These latter variables were included because they have been often ignored in previous studies (McEachern, Schröder, Willock, Whitelock, & Mason, 2007). These comprised 'When there is a choice, I choose the Fairtrade option for all food products', 'When there is a choice, I choose the Fairtrade option for all clothing products', 'When there is a choice, I choose ethical financial products and investments', 'When there is a choice, I choose the free-range/freedom food option', and 'I do not buy cosmetics and toiletries that have been tested on animals'. The original four response categories of 'always', 'most of the time', 'occasionally', and 'never' were extended to five ('I am unaware of these choices') after piloting revealed some seniors were unaware of some of these choices.

Additionally, respondents were asked about their actual behaviour relating to whether or not they had ever taken action (e.g. taken part in a demonstration, written to an organisation, used an Internet forum, or attended an event, etc.) about any ethical, environmental, or conservation issue which they felt strongly about, and whether or not they (a) were members of any environmental group or cause, or (b) regularly donated to any environmental charities.

Finally, respondents completed a battery of sociodemographic questions. These questions included the usual sociodemographic variables of gender, income (in bands), socio-economic status (ascertained by asking people what their job is or was if they were already retired), and work status (working, retired, unemployed, housewife). Three types of age (chronological, cognitive, and age identity) were also included because chronological age has been shown to have many limitations when using an older sample (Sudbury, 2004; Szmigin & Carrigan, 2000). Cognitive age (Barak & Schiffman, 1981) is a multidimensional method of measuring self-perceived age that is now used extensively in marketing research, and has been used successfully across cultures (Barak, Mathur, Zhang, Lee, & Erondur, 2003; Guiot, 2001; Kohlbacher & Chéron, 2010; Ong, Yap-Ying, & Abessi, 2009; Sudbury, 2004). Age identity is a gerontology scale which asks people to categorise themselves as young, middle-aged, or old, and is the most popular technique amongst gerontologists for measuring self-perceived age (Barak, 1987). Additionally, respondents were asked if they had children and grandchildren. The rationale for these latter questions was the assumption that those with progeny may view the issue of sustainability differently to those who are childless.

Research undertaken in a small number of countries can provide rich insights into national-level factors that are not well understood, but it precludes generalisations, and theory testing may not be appropriate (Cadogan, 2010). Indeed, had the purpose of the study been to test theory, confirmatory factor analysis would have been the next step. However, given the pioneering nature of the current study, the dearth of previous large-scale multinational research into older adults and their ethical purchasing behaviour, and the lack of appropriate and validated scales to measure actual ethical purchasing behaviour, the decision to use exploratory factor analysis was made.

The 11 items of the adapted ECCB Scale were therefore subjected to principal components analysis (PCA) with Oblimin rotation in all four countries individually. One item 'I recycle my household rubbish' showed low loadings, and a reliability analysis suggested it should be removed from the scale as well, which was duly done. The Kaiser-Meyer-Olkin measure verified the adequacy of the sample for the analysis, exceeding the recommended value of .6 (Kaiser, 1970) in all countries (UK: KMO = .898; Germany: .877; Japan: .836; Hungary: .895), while Bartlett's test of sphericity (UK: $\chi^2(45) = 7759.92, p < .001$; Germany: 1179.32, $p < .001$; Japan: 1704.17, $p < .001$; Hungary: 1387.49, $p < .001$) indicated that the correlations between items were sufficiently large for PCA. The PCA on the 10 ECCB items resulted in a single factor solution in the UK, Germany, and Hungary. Only in Japan did a second component with an eigenvalue exceeding 1 emerge, but an inspection of the scree plot lent support to a one-factor solution. A further PCA with a forced one-factor solution demonstrated all items to load strongly onto a single factor across all countries, explaining 60.65% of the variance in the UK, 54.21% in Germany, 44.66% in Japan, and 60.69% in Hungary.

Overall ECCB was therefore measured by summing the 10 remaining items, with higher scores indicative of a greater propensity to demonstrate ecologically conscious consumer behaviour. The reliability of the resulting 10-item scale was checked using Cronbach's alpha and item-total correlations. Alphas were .925 in the UK, .904 in Germany, .859 in Japan, and .927 in Hungary, revealing high internal consistency in all four countries. Corrected item-total correlations were all above .4 and in most cases even above .6.

Given the exploratory approach of this study, the focus of the analysis that follows is on a country-by-country basis, as cross-national comparisons of the raw data require measurement invariance. Nevertheless, based on the PCA and the factorial similarity it revealed, structural equivalence (Byrne & Watkins, 2003; Fischer & Fontaine, 2011) is assumed with confidence.

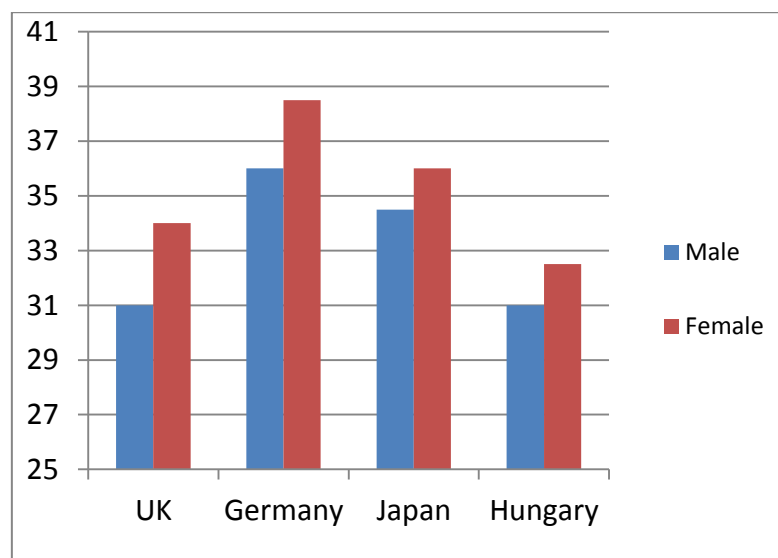
Results

Within all countries, scores on the ECCB scale ranged from a minimum of 10 to a maximum of 50. However, as can be seen from Table 3, higher scores (indicative of a greater degree of ecologically conscious consumer behaviour) were found in Japan (mean score 35.3) and Germany (means score 36.8), while the UK and Hungary produced mean scores of 32.7 and 32.3 respectively.

Turning to socio-economic variables, ECCB did not correlate with either income band or socio-economic status in any of the nations under study. Likewise, ANOVAs confirmed that ECCB is unrelated to work status. A very weak positive correlation was found with age and ECCB ($r = .105$, $n = 412$, $p < .05$) in the Japanese sample, but this relationship failed to emerge in any of the other countries. Likewise, no relationship was found with cognitive age in the UK, Germany, or Japan, while only a weak negative correlation ($r = -.162$, $n = 200$, $p < .05$) was found in the Hungarian sample. Age identity, too, failed to show any relationship to ECCB. Contrary to expectations, t-tests found no significant differences in the ECCB between parents and those who have no children, or between grandparents and those who have no grandchildren, and this was true across all the countries.

As can be seen from Figure 1, gender was the only socio-economic variable to emerge as potentially important in differentiating ECCB, with significant differences emerging in both Germany ($t = -2.920$, $df = 206.261$, $p < .01$) and the UK ($t = -5.498$, $df = 415.488$, $p < .001$). In both cases, females demonstrated significantly greater ecologically conscious consumer behaviour than did their male counterparts.

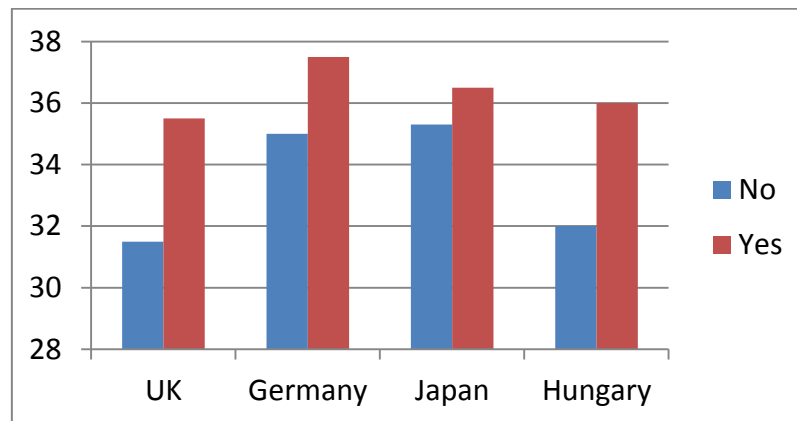
Figure 1 ECCB by country and gender.



In contrast to the socio-economic variables, those variables pertaining to behaviour relating to environmentalism did indeed demonstrate significant differences across all countries. As can be seen from

Figure 2, those who have taken action (e.g. taken part in a demonstration, written to an organisation, used an Internet forum, or attended an event etc.) about any ethical, environmental, or conservation issue which they felt strongly about demonstrate higher ECCB than do those who have never taken any action. This finding is true across all the countries, and t-tests revealed these differences to be significant in the UK ($t = 6.170$, $df = 401.085$, $p < .001$), Germany ($t = 3.383$, $df = 208$, $p < .001$), and Hungary ($t = 2.048$, $df = 198$, $p < .05$).

Figure 2 ECCB by country and action taken.



Significant differences in ecologically conscious consumer behaviour is also found between those who are members of ethical or environmental/conservation groups or causes (Figure 3 UK: $t = 3.824$, $df = 92.702$, $p < .001$; Germany: $t = 3.246$, $df = 210$, $p < .001$; Japan: $t = 3.057$, $df = 409$, $p < .01$; Hungary: $t = 4.011$, $df = 30.490$, $p < .001$) and those who regularly donate to environmental or conservation charities (Figure 4 UK: $t = 6.812$, $df = 323.106$, $p < .001$; Germany: $t = 4.269$, $df = 208$, $p < .001$; Japan: $t = 3.593$, $df = 410$, $p < .001$; Hungary: $t = 2.724$, $df = 198$, $p < .01$).

Figure 3 ECCB by country and environmental group membership.

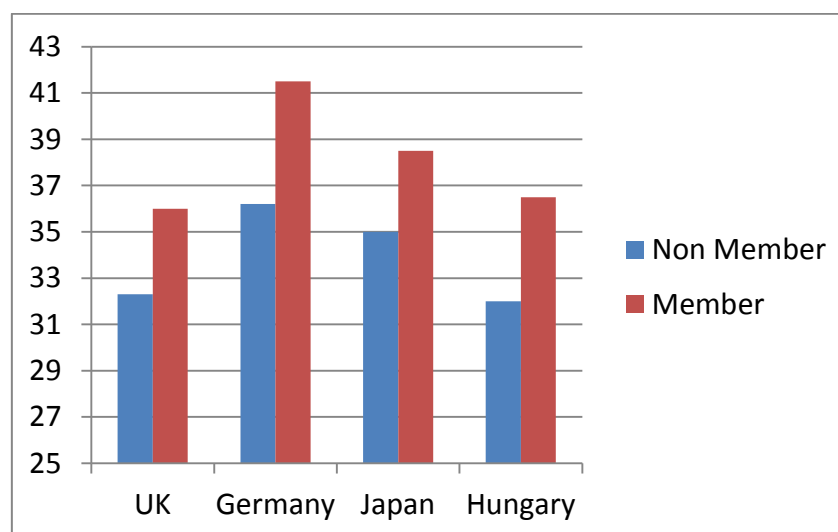
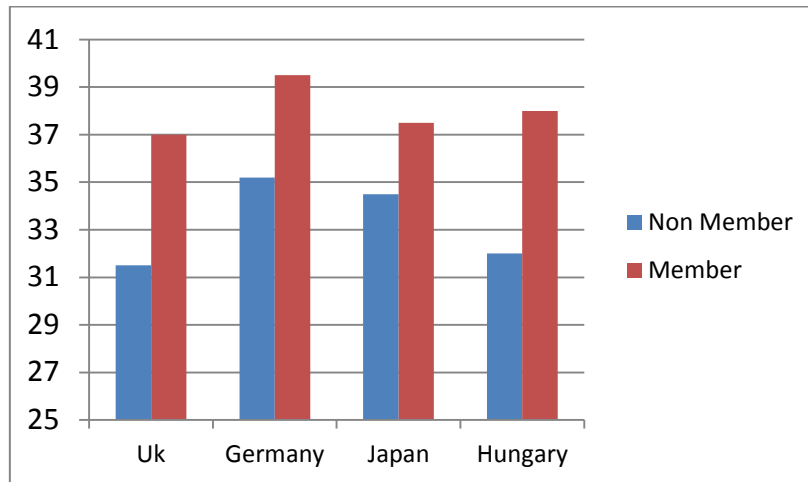


Figure 4 ECCB by country and environmental charity donation.



As noted earlier, piloting revealed concepts such as Fairtrade and freedom foods to be unfamiliar to some senior consumers, thus the final questionnaire included a response category 'I am unaware of these choices' for these questions. Table 4 details the percentage of respondents from each country who are unaware of the various Fairtrade and ethical choices. As can be seen from Table 4, the UK leads the way with the majority of British respondents being aware of most of these choices. Fewer than 5% of UK seniors are unaware of Fairtrade food. In contrast, more than 20% of Germans and more than 33% of Japanese and Hungarians have never heard of Fairtrade food. Likewise, while almost 90% of UK respondents are aware of Fairtrade clothing, more than 25% of Germans and 33% of Japanese and Hungarians are not. Ethical finance is the least well known of all these concepts in the UK, with 16.5% of respondents unaware of this choice and similar percentages of older Hungarians (18%), while relatively large numbers of German and Japanese seniors (35% and 36% respectively) have not heard of this concept at all. Those unaware of products that are not tested on animals fall between 13.5% in the UK to more than 50% of Japan's seniors in this study. The analysis that follows is therefore limited to those respondents who were aware of these ethical product choices. As Table 5 shows, significant and positive correlations were found with each of these choices and ECCB across all nations.

Table 4 Percentage of respondents unaware of various ethical product choices by country.

Choice	UK	Germany	Japan	Hungary
Fairtrade food	4.7	20.5	34.1	38.0
Fairtrade clothing	11.1	26.2	36.0	39.0
Ethical finance	16.5	34.8	36.4	18.0
Free-range food	2.8	10.5	22.2	14.0
Not tested on animals	13.5	23.8	50.6	22.0

Table 5 ECCB and ethical product choices correlations by country.

	UK ECCB	Germany ECCB	Japan ECCB	Hungary ECCB
Fairtrade food	.578**	.443**	.293**	.427**
Fairtrade clothing	.461**	.389**	.312**	.414**
Ethical finance	.454**	.491**	.192**	.200*
Free-range food	.473**	.584**	.355**	.260**
Not tested on animals	.283**	.381**	.260**	.308**

*Correlation is significant at the .05 level (two-tailed);

**correlation is significant at the .01 level (two-tailed).

Discussion

Despite the fact that direct statistical analyses between the nations cannot be made, it is still possible to compare the results. Interestingly, although the UK sample demonstrated higher levels of awareness of a variety of ethical product choices than any of the other nations studied here, these British seniors scored lower on the ECCB scale than did older Germans and Japanese, and only marginally higher than older Hungarians. Previous research (Al-Khatib et al., 2005; Vitell & Paolillo, 2004; Whipple & Swords, 1992) has shown the importance of nationality and culture as significant predictors of ethical beliefs and behaviours, and the present study contributes to that body of knowledge. The underlying reason for these apparent differences needs further investigation. As Ramsey et al. (2007) note, demographic differences among consumer groups are important to the development of marketing strategies. However, the present study found few sociodemographic differences in the ecologically conscious consumer behaviour of seniors. Ethical product choices sometimes carry a price premium, but no differences were found between income groups, socio-economic groups, or indeed between those who are still working and those who are retired. Nevertheless, as the literature review pointed out, previous studies have found that ability to pay is not correlated with actual purchase of ethical products, and thus there is still a need to investigate the underlying price–quality–ethical dimension to consumer behaviour.

Neutralisation theory has been used to explain why consumers do not take their ethical beliefs to the checkout (Chatzidakis et al., 2007). This theory suggests that consumers are able to eliminate any dissonance that may arise when they make a product choice that is not ethical, and of course it is possible that a price premium gives consumers a reason to neutralise that dissonance. Certainly, previous research (Sudbury & Böltner, 2010) has shown that once consumers are probed as to why they do not act on their beliefs they cite a wide variety of reasons, many of which project blame from the individual to the company.

The proposition that people with children and grandchildren would demonstrate their concern with sustainability to a greater extent than those without progeny found no support. The weak correlations found in the Japanese sample with chronological age and in the Hungarian sample with cognitive age are so small they are almost meaningless. Thus while some previous research has found older consumers to be more ethical than their younger counterparts (Kim & Choi, 2003; Swaidan et al., 2003; Vitell et al., 2007), it would seem that there are few age differences within the senior market, a finding that supports the work of Diamantopoulos, Schlegelmilch, Sinkovics, and Bohlen (2003). It would appear that meaningful age differences emerge only when a full range of ages is used in the study.

The only sociodemographic variable that did emerge as potentially important was gender. However, although older females scored higher on the ECCB scale than did their male counterparts in all four nationalities, these differences failed to reach statistical significance in the Japanese and Hungarian samples. This is an interesting finding because, on the one hand, a body of research suggests that women are more likely than men to behave ethically (Laroche et al., 2000; Loureiro et al., 2002). On the other hand, a body of gerontology

literature suggest that as people age, they become more androgynous. Indeed, it is well documented that in midlife there begins a change that is marked by males showing feminine traits, whilst women demonstrate male traits (Gutman, 1979). The finding that older British and German females demonstrate higher ECCB than their male counterparts is therefore consistent with previous ethics literature, while the finding that there are no significant gender differences between older Japanese and Hungarian seniors could be explained by gerontological theories. Clearly, more research into gender differences with regard to ethical consumer behaviour is warranted.

The finding that people who score highly on the ECCB scale actually demonstrate different behaviour to those whose scores are low is an important one. This behaviour manifests itself in deeds such as taking action (such as taking part in a demonstration, writing to an organisation, using an Internet forum, or attending an event etc.) about any ethical, environmental, or conservation issue they feel strongly about, making regular donations to environmental charities, and being members of environmental groups or causes. Importantly, the consumer behaviour that is demonstrated includes making wider ethical product choices, including Fairtrade foods and clothing, ethical financial products, free-range foods, and products that are not tested on animals. This finding holds true in all the countries under study, and has two important implications. First, the finding adds validity to the ECCB scale, which is important because there are few scales that actually appear to measure behaviour as opposed to intentions. Second, the findings suggest that ecologically conscious consumer behaviour is related to wider ethical purchasing, and while this seems intuitively obvious, no previous empirical evidence has demonstrated this relationship. Thus future researchers that utilise the ECCB scale can have greater confidence that the scale can act as a proxy for a wide variety of ethical behaviours.

In addition to confirming that there are substantial numbers of seniors who are consumers of ethical and environmentally friendly products, this research has shown that there are also substantial numbers of older persons who are not yet aware of these choices. This untapped market potential needs to be addressed, given that previous research has demonstrated that older adults are more ethical than younger consumers who are all too often the focus of marketing effort (Carrigan & Szmigin, 1999).

Conclusions and implications for research and practice

This study, the first of its kind, investigated the pro-environmental consumer behaviour of seniors in Japan, Germany, the UK, and Hungary. Using a modified version of the ECCB scale, the study found differences between the nations, with older Japanese and German consumers demonstrating more ecologically conscious consumer behaviour than their British and Hungarian counterparts. In line with previous research, the study found sociodemographic factors to be poor indicators of ecologically conscious consumer behaviour, although females were found to score higher on the ECCB scale than were males. An important finding was that people with higher ECCB scores actually behave differently to those with lower scores, and this behaviour includes taking part in demonstrations, blogging and using Internet forums, and/or giving to environmental charities. Finally, results revealed large numbers of senior consumers are still unaware of many ethical product choices.

The study therefore makes some significant contributions, and addresses some important gaps. First, the study makes a contribution to the literature pertaining to consumer, as opposed to corporate, ethics, which is comparatively under-researched. Second, the fact that it investigates consumer ethics in a cross-cultural setting is not to be underestimated. Too often studies are conducted in one culture or with small samples, and while these are useful, they are limited in their applicability to the wider population or to other nations. Random samples were used in this study, which adds to its usefulness. Third, the study is important because it measures actual, as opposed to intended, consumer behaviour, and given the well-documented attitude-behaviour gap, this is a significant issue. Indeed, the finding that consumers who score high on the ECCB scale do actually behave differently to those with low scores is a vital one. Moreover, the modifications to the ECCB scale, which were made as a result of extensive piloting across four different nations, adds to the validity and usefulness of the scale. Future researchers can now utilise the scale with more faith in its validity and reliability, and can have confidence in cross-national settings. A further significant contribution, made because of the recognised limitations of the ECCB scale, was the inclusion of questions pertaining to Fairtrade, ethical financial products, free-range and freedom goods, and animal testing. The study therefore includes wider behaviours than have previously been measured using solely ECCB scale items. Finally, the fact that the study

concentrates on senior consumers makes a valuable contribution to the older consumer literature, and this is especially important given that the study was conducted outside the United States, where the vast majority of knowledge pertaining to older consumers originates. Additionally, the inclusion of questions pertaining to progeny and various types of self-perceived age are unique in an ethics study, and while these variables were not found to be significant in terms of ethical consumer behaviour, their inclusion in studies is important from a senior consumer perspective.

Clearly, investigation is needed into the underlying reasons why, despite higher levels of awareness of ethical product choices, older UK consumers do not score as high on the ECCB scale as those in Germany and Japan. Possible reasons for this paradox include those ethical or environmentally friendly products are perceived as too expensive, and where price and ethical concerns conflict, Shaw and Clarke (1999) found a restricted number of ethical purchases were made. Thus, while many seniors are affluent, there are others who are less well-off who may not be able to afford a full range of ethical products. Other possibilities include the perception of inferior quality, or it may be a packaging issue: a previous study (D'Souza, Taghian, Lamb, & Peretiatko, 2007) found older Australian consumers to be more dissatisfied with environmental labelling than their younger counterparts.

Communication to those who are unaware is of course crucial, and clearly there are major untapped marketing opportunities here. Those marketing and advertising managers whose brands are positioned ethically need to begin to tap into these potential new senior markets, while keeping in mind that information provision has been shown to be crucial as an influencer to ethical purchasing (Valor, 2007). Furthermore, there is a move to challenge manufacturers to prove the ethical claims they make (Strong, 1996), particularly as ethical consumers have been found to be sceptical of advertising (Shrum, McCarty, & Lowrey, 1995). Moreover, it has been noted that there is a gap in the literature with respect to the design of advertising which aims to promote sustainable consumption (Golding, 2008). Given the proven fact that seniors are underrepresented in advertising (Carrigan & Szmigin, 2000; Prieler, Kohlbacher, Hagiwara, & Arima, 2011; Simcock & Sudbury, 2006), it may be quite a steep learning curve for marketers to learn to target a segment effectively that are proving to comprise astute and sophisticated consumers (Sudbury & Simcock, 2010).

Citizenship and consumption are often portrayed as oppositional, but, as Soper (2007) argues, the two do not have to be mutually exclusive. Rather, there is the possibility that some affluent consumers simply choose to consume in a different way, and the identification of such seniors in the current study lends support for such a theory. Indeed, previous research suggests that customer service and product quality are important motivators even when purchasing ethical products (Megicks, Memery, & Williams, 2008). Thus it is unlikely that many of today's affluent seniors are willing to compromise on quality or service for the sake of an ethically sourced or produced product.

One of the limitations of the study is, due to its exploratory nature, direct cross-cultural comparisons are not made, as more confirmatory methods would be to establish measurement equivalence, and examine the antecedents of ecologically conscious consumer behaviour among seniors in these different nations. The study has therefore set a research agenda, and the potential antecedents to be investigated in the near future include the different value bases of these seniors, their ethical ideologies, anomie, and their attitudes and beliefs from a new environmental paradigm perspective. Perhaps the most pressing implication from this research from a practitioner perspective is the need for an investigation into the major untapped marketing opportunities that this study reveals. There are large groups of relatively wealthy, relatively ethical consumers to be found across the nations under study that are unaware of some ethical product choices. Research needs to be conducted to ascertain why many ethical positioning strategies appear to be missed by so many senior consumers. By taking the time to understand the needs and motivations of an increasingly important demographic, marketers of ethical products may be able to restore the radical edge they lost when ethical products moved from niche to mainstream.

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